

What is claimed is:

1. A moving picture encoder, which divides an image  
in each frame of moving picture into a plurality of  
5 blocks and performs an encoding process on each block,  
comprising:  
a coding unit performing an intra-frame coding  
process or an inter-frame coding process on given  
data; and  
10 an information amount reduction unit reducing an  
amount of information about given data, wherein  
for a plurality of consecutive frames containing  
a first frame, said coding unit performs the intra-  
frame coding process on each block, and said  
15 information amount reduction unit reduces an amount  
of information about data coded by said coding unit;  
and  
for frames subsequent to the plurality of frames,  
said coding unit adaptively performs the intra-frame  
20 coding process or the inter-frame coding process on  
each block.
2. A moving picture encoder, which divides an image  
in each frame of moving picture into a plurality of  
25 blocks and performs an encoding process on each block,

comprising:

a coding unit performing an intra-frame coding process or an inter-frame coding process on given data;

5 an information amount reduction unit reducing an amount of information about given data; and

a detection unit detecting a discontinuous point in input moving picture, wherein

for a plurality of consecutive frames containing  
10 a frame immediately after said detection unit detects the discontinuous point, said coding unit performs the intra-frame coding process on each block, and said information amount reduction unit reduces an amount of information about data coded by said coding unit;  
15 and

for frames subsequent to the plurality of frames, said coding unit adaptively performs the intra-frame coding process or the inter-frame coding process on each block.

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3. The encoder according to claim 1, wherein

said information amount reduction unit reduces the amount of information in each block by lowering spatial resolution of an image in the plurality of  
25 frames.

4. The encoder according to claim 1, further comprising

an information amount adjustment unit stepwise increasing an amount of information in each block for  
5 frames subsequent to the plurality of frames from a state in which said information amount reduction unit has reduced the amount of information.

5. The encoder according to claim 4, wherein  
10 said information amount adjustment unit stepwise raises the spatial resolution of an image in frames subsequent to the plurality of frames.

6. The encoder according to claim 1, further  
15 comprising

a transform unit orthogonally transforming coded data obtained by said coding unit, wherein  
said information amount reduction unit outputs  
only data of a direct current element among data of  
20 frequency elements generated by said transform unit.

7. The encoder according to claim 6, wherein  
said information amount adjustment unit stepwise extends a range of a frequency of data of an AC  
25 element to be selected and outputted among data of

frequency elements generated by said transform unit for frames subsequent to the plurality of frames.

8. The encoder according to claim 1, wherein  
5 said information amount reduction unit down-samples image data for the plurality of frames.

9. The encoder according to claim 1, further comprising  
10 a transform unit orthogonally transforming coded data obtained by said coding unit, wherein  
said information amount reduction unit down-samples image data, and outputs only data of a direct current element among data of frequency elements  
15 generated by said transform unit.

~~10.~~ A moving picture encoder, which divides an image  
in each frame of moving picture into a plurality of blocks and performs an encoding process on each block,  
20 comprising:

a coding unit performing an intra-frame coding process on input data when a first signal is received, and adaptively performing an intra-frame coding process or an inter-frame coding process on input data  
25 when a second signal is received;

an information amount reduction unit reducing an amount of information about data coded by said coding unit when a third signal is received; and

5 a controller generating the first and the third signals for a plurality of consecutive frames containing a first frame, and generating the second signal for frames subsequent to the plurality of frames.

10 11. A moving picture encoder, which encodes image data in each frame of moving picture, comprising:

a coding unit performing an intra-frame coding process or an inter-frame coding process on given data; and

15 an information amount reduction unit reducing an amount of information about given data, wherein

for a plurality of consecutive frames containing a first frame, said coding unit performs the intra-frame coding process, and said information amount  
20 reduction unit reduces an amount of information about data coded by said coding unit; and

for frames subsequent to the plurality of frames, said coding unit adaptively performs the intra-frame coding process or the inter-frame coding process.

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12. A moving picture encoder, which divides an image in each frame of moving picture into a plurality of blocks and performs a coding process on each block, comprising:

5           a coding unit performing an intra-frame coding process or an inter-frame coding process on given data;

          an information amount reduction unit reducing an amount of information about given data; and

10           a controller generating a signal for performing by said coding unit an intra-frame coding process on a plurality of consecutive frames containing a first frame, generating a signal for reducing an amount of information in one or more frames among the plurality of frames by said information amount reduction unit, and generating a signal for adaptively performing by said coding unit an intra-frame coding process or an inter-frame coding process on frames subsequent to the plurality of frames.

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13. A moving picture encoder, which divides an image in each frame of moving picture into a plurality of blocks and performs an encoding process on each block, comprising:

25           a coding unit performing an intra-frame coding

process on input data when a first signal is received,  
and adaptively performing an intra-frame coding  
process or an inter-frame coding process on input data  
when a second signal is received;

5           an information amount reduction unit reducing an  
amount of information about data coded by said coding  
unit when a third signal is received;

          a detection unit detecting a discontinuous point  
in input moving picture; and

10           a controller generating the first and the third  
signals for a plurality of consecutive frames  
containing a frame immediately after said detection  
unit detects a discontinuous point, and generating the  
second signal for frames subsequent to the plurality  
15 of frames.

14. A moving picture encoder, which encodes image  
data in each frame of moving picture, comprising:

20           a coding unit performing an intra-frame coding  
process or an inter-frame coding process on given  
data;

          an information amount reduction unit reducing an  
amount of information about given data; and

25           a detection unit detecting a discontinuous point  
in input moving picture, wherein

for a plurality of consecutive frames containing a frame immediately after said detection unit detects the discontinuous point, said coding unit performs the intra-frame coding process, and said information amount reduction unit reduces an amount of information about data coded by said coding unit; and

for frames subsequent to the plurality of frames, said coding unit adaptively performs the intra-frame coding process or the inter-frame coding process.

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15. A moving picture encoder, which divides an image in each frame of moving picture into a plurality of blocks and performs an encoding process on each block, comprising:

15 a coding unit performing an intra-frame coding process or an inter-frame coding process on given data;

an information amount reduction unit reducing an amount of information about given data;

20 a detection unit detecting a discontinuous point in input moving picture; and

a controller generating a signal for performing by said coding unit an intra-frame coding process on a plurality of consecutive frames containing a frame immediately after said detection unit detects a

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discontinuous point, generating a signal for reducing an amount of information in one or more frames among the plurality of frames by said information amount reduction unit, and generating a signal for adaptively performing by said coding unit an intra-frame coding process or an inter-frame coding process on frames subsequent to the plurality of frames.

16. A moving picture decoder, which decodes data coded by an encoder, wherein

said encoder divides an image in each frame of moving picture into a plurality of blocks, performs an intra-frame coding process for each block on a plurality of consecutive frames containing a first frame, and adaptively performs an intra-frame coding process or an inter-frame coding process for each block on frames subsequent to the plurality of frames; and

said moving picture decoder comprises:

an error detection unit detecting a transmission error for each block or for a plurality of blocks; and

a concealment unit concealing an error, when the error is detected in a first frame by said error detection unit, using an image in another block in the



the error has been detected (N and M are natural numbers, and  $N > M$ ).

18. A moving picture decoder, which decodes data  
5 coded by an encoder, wherein

said encoder divides an image in each frame of  
moving picture into a plurality of blocks, performs  
an intra-frame coding process for each block on a  
plurality of consecutive frames containing a frame  
10 immediately after a discontinuous point is detected  
in input moving picture, and adaptively performs an  
intra-frame coding process or an inter-frame coding  
process for each block on frames subsequent to the  
plurality of frames; and

15 said moving picture decoder comprises:

a first detection unit detecting a  
transmission error for each block or for a plurality  
of blocks;

a second detection unit detecting a  
20 discontinuous point in input moving picture; and

a concealment unit concealing an error, when  
said first detection unit detects the error in a frame  
immediately after said second detection unit detects  
a discontinuous point, using an image in another block  
25 in the frame in which the error has been detected, and

concealing an error, when the error has been detected in the subsequent frames, using an image in a frame immediately before the frame in which the error has been detected.

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19. A moving picture transmission system, in which an encoder divides an image in each frame of moving picture into a plurality of blocks and performs a coding process for each block, and a decoder decodes the coded data, wherein

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said encoder comprises:

a coding unit performing an intra-frame coding process or an inter-frame coding process on given data; and

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an information amount reduction unit reducing an amount of information about given data, wherein

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for a plurality of consecutive frames containing a first frame, said coding unit performs the intra-frame coding process on each block, and said information amount reduction unit reduces an amount of information about data coded by said coding unit; and for frames subsequent to the plurality of frames, said coding unit adaptively performs the intra-frame coding process or the inter-frame coding process on

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each block,

said decoder comprises:

an error detection unit detecting a  
transmission error for each block or for a plurality  
5 of blocks; and

a concealment unit concealing an error, when  
the error is detected in a first frame by said error  
detection unit, using an image in another block in the  
first frame, and concealing an error, when the error  
10 is detected in a subsequent frame, using an image in  
a frame immediately before a frame in which the error  
has been detected.

20. A moving picture coding method of dividing an  
15 image in each frame of moving picture into a plurality  
of blocks and performing an encoding process on each  
block, comprising:

performing an intra-frame coding process on each  
block for a plurality of consecutive frames containing  
20 a first frame;

reducing an amount of information about the  
encoded data for the plurality of frames; and

adaptively performing the intra-frame coding  
process or an inter-frame coding process on each block  
25 for frames subsequent to the plurality of frames.

21. A moving picture coding method of dividing an image in each frame of moving picture into a plurality of blocks and performing an encoding process on each block, comprising:

detecting a discontinuous point in input moving picture;

performing an intra-frame coding process on each block for a plurality of consecutive frames containing a frame immediately after the discontinuous point is detected;

reducing an amount of information about the encoded data for the plurality of frames; and

adaptively performing the intra-frame coding process or the inter-frame coding process on each block for frames subsequent to the plurality of frames.

22. A moving picture coding/decoding method of dividing an image in each frame of moving picture into a plurality of blocks, performing an encoding process on each block, and decoding the coded data, comprising:

performing an intra-frame coding process on each block for a plurality of consecutive frames containing

reducing an amount of information about the encoded data for the plurality of frames;

adaptively performing the intra-frame coding process or an inter-frame coding process on each block for frames subsequent to the plurality of frames;

concealing an error, when the error is detected in the first frame, using an image in another block in the first frame; and

concealing an error, when the error is detected in subsequent frames, using an image in a frame immediately before the frame in which the error has been detected.

23. A moving picture coding/decoding method of dividing an image in each frame of moving picture into a plurality of blocks, performing an encoding process on each block, and decoding the coded data, comprising:

detecting a discontinuous point in input moving picture;

performing an intra-frame coding process on each block for a plurality of consecutive frames containing a frame immediately after the discontinuous point is detected;

reducing an amount of information about the encoded data for the plurality of frames;

adaptively performing the intra-frame coding process or an inter-frame coding process on each block  
5 for frames subsequent to the plurality of frames;

generating moving picture by decoding the coded data;

concealing an error, when the error is detected in a frame immediately after the discontinuous point  
10 is detected, using an image in another block in the frame in which the error has been detected; and

concealing an error, when the error is detected in subsequent frames, using an image in a frame immediately before the frame in which the error has  
15 been detected.

24. A moving picture encoder, which divides an image in each frame of moving picture into a plurality of blocks and performs an encoding process on each block,  
20 comprising:

coding means for performing an intra-frame coding process or an inter-frame coding process on given data; and

information amount reduction means for reducing  
25 an amount of information about given data, wherein



for a plurality of consecutive frames containing a first frame, said coding means performs the intra-frame coding process on each block, and said information amount reduction means reduces an amount of information about data coded by said coding means;  
5 and

for frames subsequent to the plurality of frames, said coding means adaptively performs the intra-frame coding process or the inter-frame coding process on  
10 each block.

25. A moving picture encoder, which divides an image in each frame of moving picture into a plurality of blocks and performs an encoding process on each block,  
15 comprising:

coding means for performing an intra-frame coding process or an inter-frame coding process on given data;

information amount reduction means for reducing  
20 an amount of information about given data; and

detection means for detecting a discontinuous point in input moving picture, wherein

for a plurality of consecutive frames containing a frame immediately after said detection means detects  
25 the discontinuous point, said coding means performs

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5           for frames subsequent to the plurality of frames,  
said coding means adaptively performs the intra-frame  
coding process or the inter-frame coding process on  
each block.